

## SYSTEMS AND METHODS FOR GENERATING CHLORINE DIOXIDE

### ABSTRACT

[0090] Processes for generating chlorine dioxide generally include acidifying an alkali metal chlorite solution; and contacting the acidified alkali metal chlorite solution with a solid phase chlorine-containing material to produce chlorine dioxide. An exemplary system for generating chlorine dioxide generally includes a water source in fluid communication with a conduit that is fluidly connected to a vessel, wherein the vessel comprises a housing, an inlet in fluid communication with the housing and the conduit, an outlet, and a solid phase chlorine-containing material disposed within the housing; an acid source downstream from the water source in fluid communication with the conduit; and a chlorite ion source in fluid communication with the conduit downstream from the acid source. Various means are provided for the acid source.